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Extensive Reading and L2 proficiency: A six-year assessment

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Abstract

Many studies on extensive reading (ER) have reported an improvement in proficiency test scores after students complete the program. This paper addresses the question as to whether the student's initial L2 proficiency plays a more significant part in the final outcome or whether the amount of extensive reading enables students to achieve higher scores. Data was collected from 274 Japanese university freshmen between the years 2014 to 2019. Pre- and post-semester TOEIC Bridge test scores and MReader total word counts were examined. The entire group was divided into three sections and evaluated by two criteria: first, according to the difference in their two test scores, and secondly, by the total number of words they read during the semester. The result of the analysis showed that the group with the highest word count exhibited greater improvement than the group that had higher scores on the first TOEIC Bridge test. This outcome suggests that an extensive amount of reading is a key factor for improving L2 proficiency.

Keywords: Extensive Reading; Mreader; TOEIC Bridge test

Introduction

Extensive reading (henceforth ER) has been receiving a lot of attention in recent years and many studies have been conducted. Although several researchers have documented the empirical effectiveness of ER (Beglar & Hunt, 2014; Aka, 2019; Lyddon & Kramer, 2019), it is still unclear whether ER directly contributed to the improvement of L2 proficiency. The test score results obtained after ER programs have shown significant changes in L2 proficiency. Yet the question remained as to whether a higher level of L2 proficiency allowed more books to be read, or whether reading a large number of books was the cause for improvement in L2 proficiency. To answer this question we analyzed six years' worth of ER program data. This paper will demonstrate the effectiveness of an ER program by showing its influence on TOEIC Bridge test scores. The TOEIC test is a popular proficiency test in Japan, and the TOEIC Bridge test is the entry-level version of the regular TOEIC test.

Method

Methodology

The current investigation involved analyzing the scores of pre- and post-semester TOEIC Bridge tests and the number of words a student read as recorded by

MReader. An analysis was made to measure the degree of influence an Extensive Reading program had upon the TOEIC Bridge test scores. A one-way ANOVA was used to ascertain the effect that the semester's total word count had on the final TOEIC Bridge test scores. IBM statistical software SPSS 26.0 was used as the analytic tool for this data.

Research subjects

This was a longitudinal study that included students who attended freshman CALL classes between 2014 and 2019. The participants in this study numbered 274 male and female first-year students at a 4-year science and technology university in Japan. (The male/female variable will be investigated in the future.) The students were between the ages of eighteen and nineteen years old and their native language was Japanese. All of the students were taught by the author of this study. In Japan, students receive six years of English education in junior and senior high school before they start university.

Procedures

The university uses the TOEIC Bridge test to assess English proficiency. The tests were administered at the beginning and the end of the first academic year. Even though ETS offered a new TOEIC Bridge test in 2019 with scores ranging from 30 to 100, we were still able to use the old-style test in 2019 because the test was administered as part of an institutional program. The TOEIC Bridge test scores between 2014 and 2019 ranged from 20 to 180. For the present research, the results were divided into three groups: scores over 155 were considered to be the highest level group, equivalent to B1 in CEFR; scores between 130 and 150 were considered to be the mid-level group, equivalent to A2 in CEFR; and scores under 130 were considered to be the lowest level group, equivalent to A1 in CEFR.

MReader is a website where students can answer quizzes after reading graded readers. When students answer a certain percentage correctly, they then receive credit for the number of words in their account. The total word count for each student was downloaded and recorded each semester. Though there is always the possibility of cheating, and the word count always shows some variation, it has been suggested that MReader is still substantially better than self-reported word counts. For example, McLean et.al (2018) showed that MReader could be successfully used for word counts.

The TOEIC Bridge test scores and the number of words recorded in MReader were analyzed using advanced statistical software called SPSS.

Results

Previous studies of ER and its contribution to the improvement of L2 proficiency have indicated that students show significant gains on proficiency tests. According to Robb et.al (2013), there were significant gains on the scores of their in-house, 60-minute examinations. In the current study, two sets of TOEIC Bridge test scores were archived each year and the number of words read by the subjects was recorded by using MReader. The data was obtained from 2014 to 2019 in the researcher's classroom.

The present study employed a method of dividing samples into low (A1 in CEFR), middle (A2 in CEFR), and high (B1 in CEFR) language proficiency. The samples were divided into three groups based on

the scores of the January TOEIC Bridge test. Table 1 shows the scores of the two tests and the number of words by proficiency levels.

Table 1

		N	Average	SD	SE	95% Confidence Interval		Min.	Max.
						Lower Limit	Upper Limit		
A	High	21	145.81	8.85	1.93	141.78	149.84	126	162
	Middle	235	129.50	12.28	0.80	127.92	131.08	88	168
	Low	95	115.07	13.96	1.43	112.23	117.92	68	142
	Total	351	126.57	14.88	0.79	125.01	128.13	68	168
B	High	21	217245.95	180124.73	39306.43	135254.16	299237.75	20925	794055
	Middle	235	161401.27	101175.67	6599.97	148398.31	174404.23	901	667783
	Low	95	135001.52	88136.28	9042.59	117047.24	152955.79	2030	506258
	Total	351	157597.17	105574.04	5635.12	146514.21	168680.14	901	794055
C	High	21	158.19	3.94	0.86	156.39	159.99	156	174
	Middle	235	140.26	7.01	0.45	139.35	141.16	130	154
	Low	95	120.42	6.51	0.66	119.09	121.75	94	128
	Total	351	135.96	202012.35	0.66	134.66	137.26	94	174

Note: A. Bridge test scores in April (first Bridge test), B.Total amount of words read in an academic year, C. Bridge test scores in January (second Bridge test)

The results of a one-way ANOVA revealed significant differences among the three groups. Table 2 shows the results of the ANOVA. The results show that the higher language level group read more books than the middle-level group and the middle-level group read more books than the lower-level group.

Table 2 ：ANOVA（Groups Divided by the Bridge Test Scores）

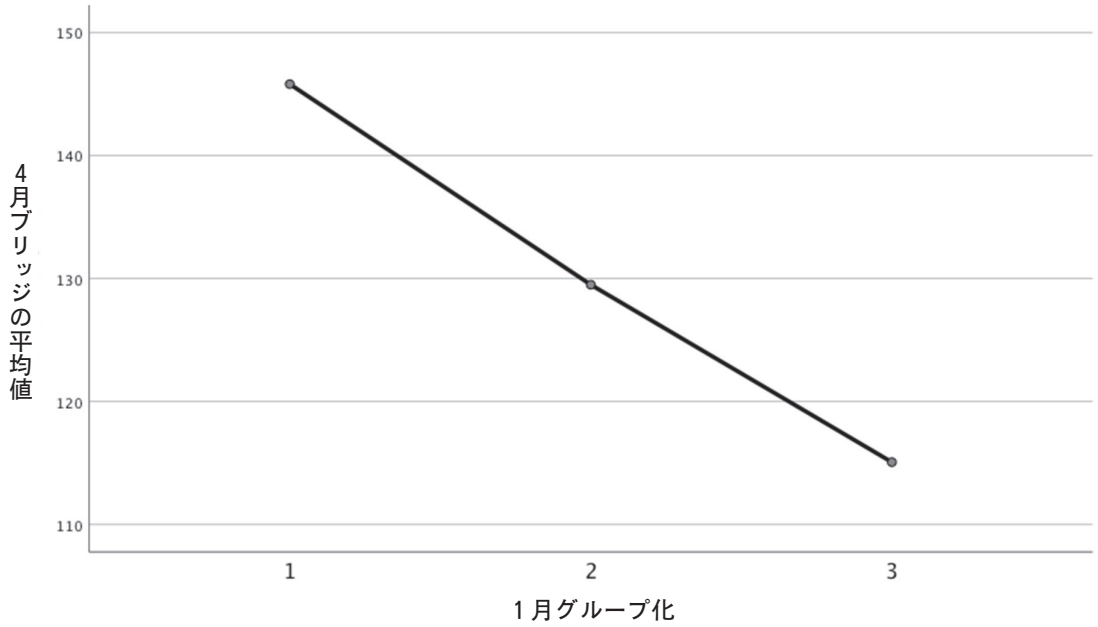
		Sum of Squares	Freedom	Mean-square	F	P value
A	among groups	22343.56	2	11171.78	70.39	0.000
	in the group	55230.47	348	158.70		
	total	77574.04	350			
B	among groups	126621793739.15	2	63310896869.57	5.83	0.003
	in the group	3774435773707.25	348	10846079809.50		
	total	3901057567446.40	350			
C	among groups	37652.36	2	18826.18	414.46	0.000
	in the group	15807.07	348	45.42		
	total	53459.44	350			

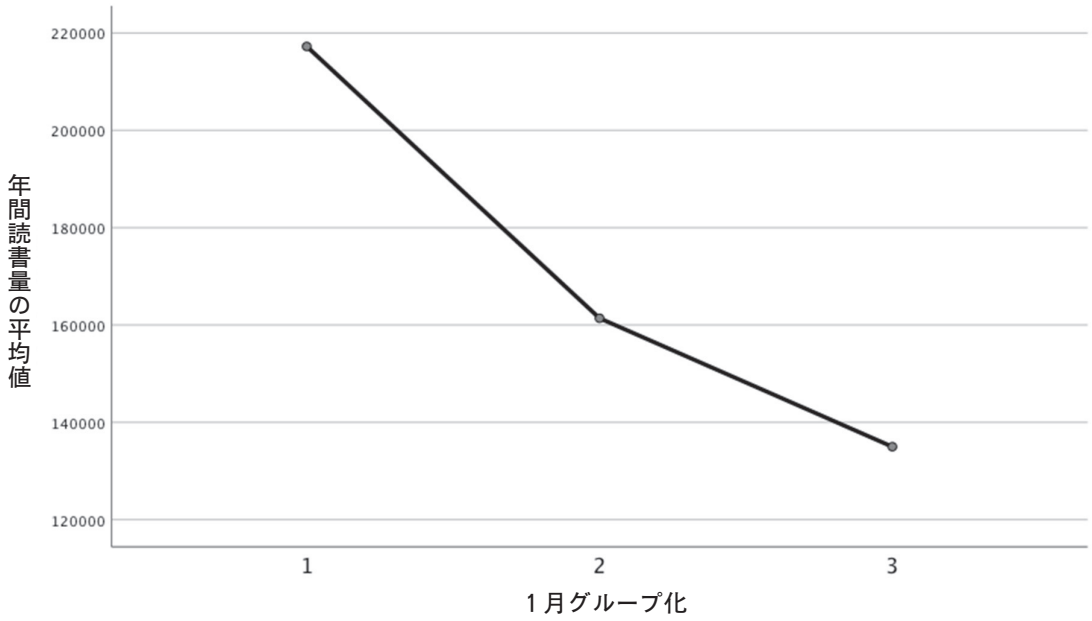
＊P<.05

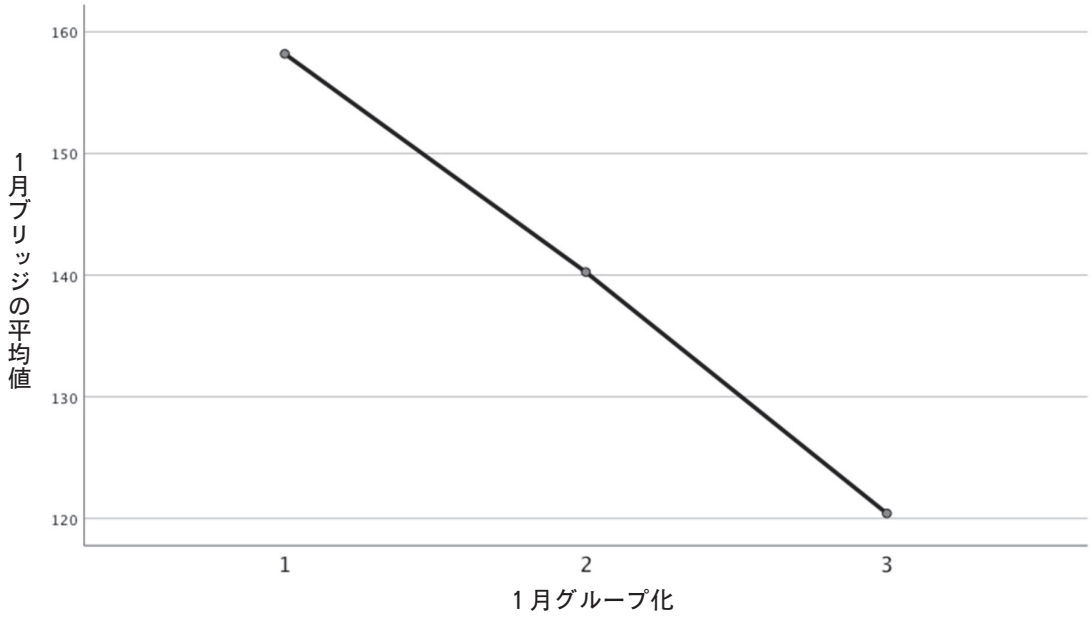
Note: A. Bridge test scores in April (first Bridge test), B.Total amount of words read in an academic year, C. Bridge test scores in January (second Bridge test)

The following line graphs compare the average values of three groups on three scales: the first TOEIC Bridge test scores; the total number of words read in a year; and the last TOEIC Bridge test scores.

Line Graphs 1







The present study employed another method for dividing the samples into three groups by the total amount of words read: low (under 200,000 words/year); middle (between 200,000 and 400,000 words/year); and high (over 400,000 words/year). Table 3 displays the average scores of the two TOEIC Bridge tests and the average amount of words.

Table 3

		N	Average	SD	SE	95% Confidence Interval		Min.	Max.
						Lower Limit	Upper Limit		
A	High	10	143.00	11.97	3.785	134.43	151.56	116.00	160.00
	Middle	67	139.67	12.26	1.498	136.67	142.66	110.00	160.00
	Low	274	134.79	12.17	0.735	133.34	136.24	94.00	174.00
	Total	351	135.96	12.35	0.659	134.66	137.25	94.00	174.00
B	High	10	127.60	10.57	3.343	120.03	135.16	114.00	142.00
	Middle	67	130.77	11.86	1.449	127.88	133.66	102.00	156.00
	Low	274	125.50	15.52	0.937	123.65	127.34	68.00	168.00
	Total	351	126.56	14.88	0.794	125.00	128.137	68.00	168.00
C	High	10	571227.3000	104979.29	33197.36	496129.63	646324.96	414182.00	794055.00
	Middle	67	267524.4328	50023.58	6111.35	255322.72	279726.14	200604.00	396598.00
	Low	274	115621.1606	48168.08	2909.94	109892.38	121349.93	901.00	198544.00
	Total	351	157597.1738	105.04399	5635.12558	146514.200	168680.1416	901.00	794055.00

Note: A. Bridge test score (end of school year), B. Bridge test score (beginning of school year), C. total number of words read in a year

Table 4 shows the results of a one-way ANOVA. The results revealed significant differences among the three groups. The results show that the high group read

more books than the middle group and that the middle group read more books than the low group.

Table 4 : ANOVA (Groups Divided by the Number of words Read in a Year)

		Sum of Squares	Freedom	Mean-square	F	P value
A	among groups	22343.56	2	11171.78	70.39	0.000
	in the group	55230.47	348	158.70		
	total	77574.04	350			
B	among groups	126621793739.15	2	63310896869.57	5.83	0.003
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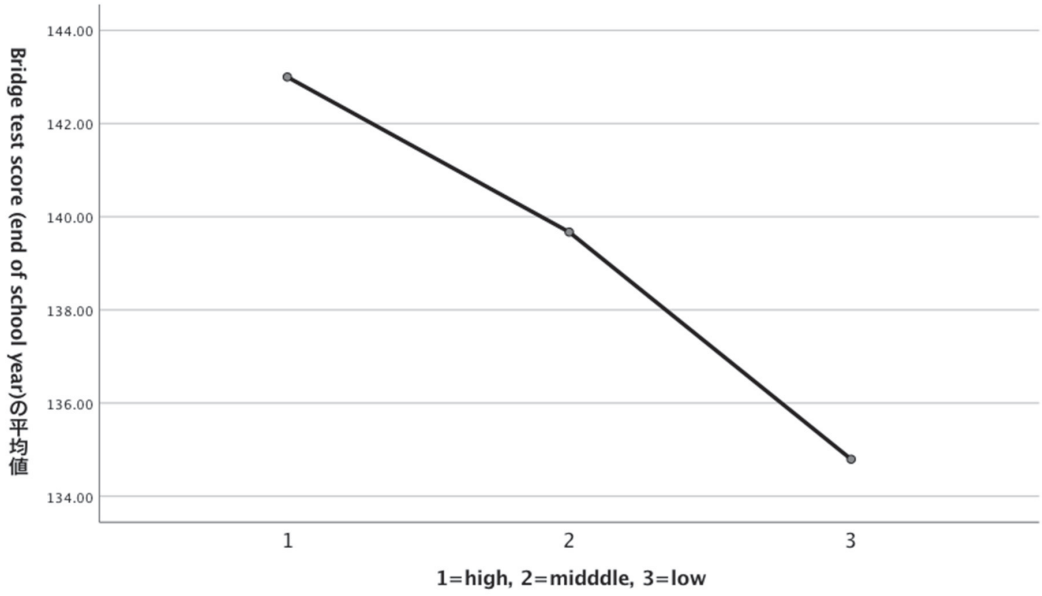
	in the group	15807.07	348	45.42		
	total	53459.44	350			

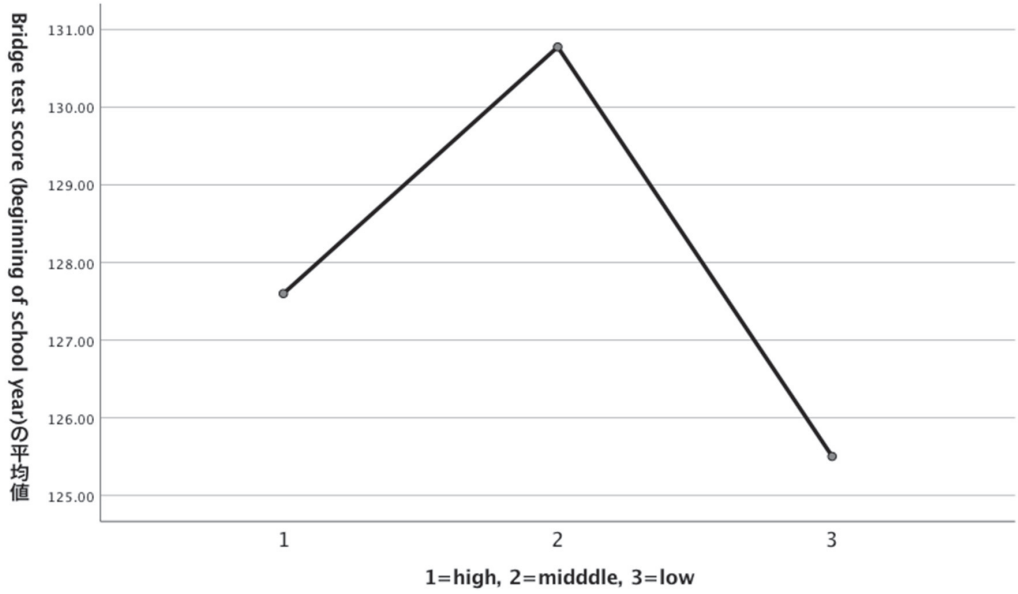
＊P<.05

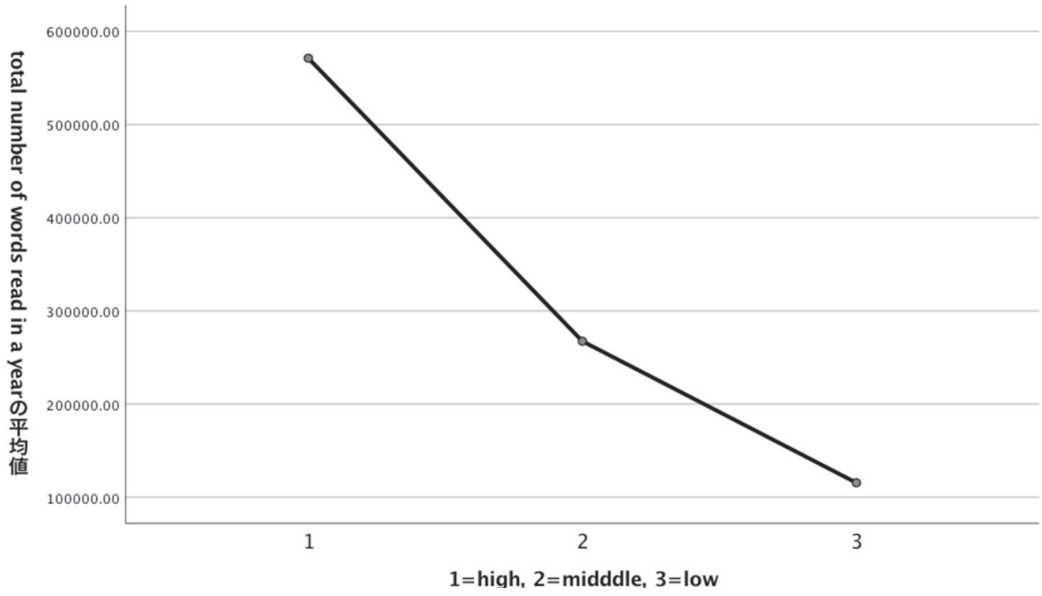
Note: A. Bridge test score (end of school year), B. Bridge test score (beginning of school year), C. total number of words read in a year

The following line graphs compare the average values of the three groups on three scales: the first TOEIC Bridge test scores; the total number of words read in a year; and the last TOEIC Bridge test scores. When examining the average TOEIC Bridge test scores, the high proficiency group was lower than the middle group on their initial tests, but the high group surpassed the middle group on the last test.

Line Graphs 2







When the students were divided into groups by their scores on the TOEIC Bridge test, a significant relationship between the number of words read and the TOEIC Bridge test scores was confirmed. That relationship does not guarantee that reading alone was the cause for the higher level of L2 proficiency, but it does suggest the probability that this is the case. Significantly, when examining the group by dividing them into low (under 200,000 words/year), middle (between 200,000 and 400,000 words/year), and high (over 400,000 words/year), the high group's scores were significantly higher than the middle group's scores. In the first Bridge test, the average scores of the high group was lower than the middle group. The high group took higher scores than the middle group in the last Bridge test. That means the high group overcame their initial condition by reading significantly more words. This finding is consistent with Nishzawa et.al (2009), in that the higher word-count group became the highest proficiency group.

Discussion and Conclusion

Previous studies have documented the effectiveness of ER in improving L2 proficiency, but actual studies comparing the number of words read with the improvement in proficiency test scores are rare. According to Lyddon et.al (2019), they found statistically significant gains in TOEIC reading scores, but the study did not report the statistical comparison between the number of words read and the proficiency test scores.

The present paper confirmed the effectiveness of ER by comparing the TOEIC Bridge test scores and the number of words read by students in an academic year. This study proved that the students who read more English overcame their initial low scores on the TOEIC Bridge test and achieved higher final scores on their last test. This finding confirms Krashen's input hypothesis that advocates language can be subconsciously acquired through incidental learning. This study, therefore, indicates that the benefits gained from ER may trigger proficiency test score improvement. However, some limitations are worth noting. Although this study statistically supported the effectiveness of extensive reading, the threshold of language proficiency has not been identified yet. Future work, therefore, should include the analysis of threshold: the identification between the specific number of words students read and the specific improved scores they gained. In addition, extensive reading is influenced not only by the language proficiency of students but also by other psychological domains. Future research might also examine the psychological domains that change the consequence of the achievement in the number of words and the scores of the proficiency test.

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